



DRILL STEM TEST REPORT

Prepared For: **Presco Western LLC**

1775 Sherman st ste2950 Denver Co 80203-4234

ATTN: Harold Fraulie

24-32-41

Johns 2-524

Start Date: 2001.05.24 @ 20:37:23

End Date: 2001.05.25 @ 05:35:36

Job Ticket #: 14201 DST #: 1

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620

Presco Western LLC

Johns 2-524

24-32-41

DST # 1

Marrow Marine 3

2001.05.24



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Presco Western LLC

Johns 2-524

1775 Sherman st ste2950 Denver Co 80203-4234

24-32-41

Job Ticket: 14201

DST#: 1

ATTN: Harold Fraulie

Test Start: 2001.05.24 @ 20:37:23

GENERAL INFORMATION:

Formation: **Marrow Marine 3**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 23:02:06

Time Test Ended: 05:35:36

Test Type: Conventional Straddle

Tester: Jimmy Shultz

Unit No: 17

Interval: **5240.00 ft (KB) To 5290.00 ft (KB) (TVD)**

Reference Elevations: 3405.00 ft (KB)

Total Depth: 5597.00 ft (KB) (TVD)

3394.00 ft (CF)

Hole Diameter: 7.88 inches Hole Condition: Poor

KB to GR/CF: 11.00 ft

Serial #: **3026** Inside

Press@RunDepth: 315.12 psig @ 5242.00 ft (KB)

Capacity: 7000.00 psig

Start Date: 2001.05.24

End Date: 2001.05.25

Last Calib.: 2001.01.30

Start Time: 20:37:23

End Time: 05:35:36

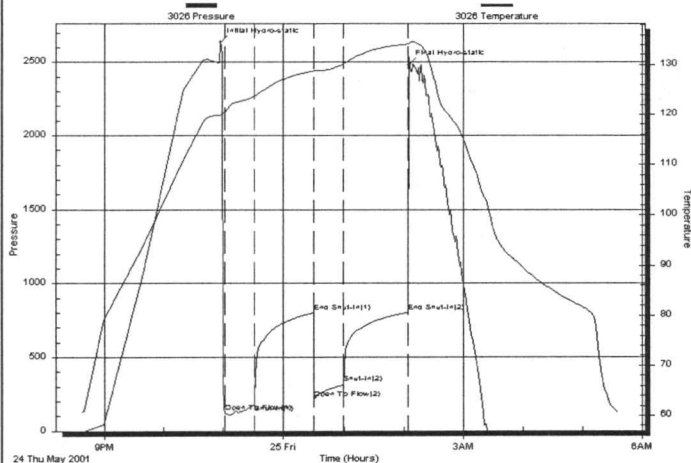
Time On Btm: 2001.05.24 @ 22:56:51

Time Off Btm: 2001.05.25 @ 02:04:36

TEST COMMENT: IF-strong blow BOB in 1 min gas to surface in 12 min

ISI-bled off in 8 min no blow back

Pressure vs. Time



PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 2634.69 | 119.87 | Initial Hydro-static |
| 6 | 122.62 | 120.48 | Open To Flow (1) |
| 34 | 176.41 | 123.64 | Shut-In(1) |
| 93 | 800.00 | 128.75 | End Shut-In(1) |
| 94 | 211.36 | 128.76 | Open To Flow (2) |
| 123 | 315.12 | 130.17 | Shut-In(2) |
| 188 | 801.90 | 134.12 | End Shut-In(2) |
| 188 | 2480.42 | 134.16 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|------------------------------------|--------------|
| 120.00 | gassy w atery mud 15% G 35%W 50% M | 0.59 |
| 120.00 | gassy w atery mud 10%G 30%W 60%M | 0.59 |
| 120.00 | gassy w ater mud 5% G 25% w 70% M | 1.05 |
| 180.00 | mud | 2.52 |

Gas Rates

| | Choke(inches) | Pressure (psig) | Gas Rate (Mcf/d) |
|----------------|---------------|-----------------|------------------|
| First Gas Rate | 0.38 | 3.00 | 63.74 |
| Last Gas Rate | 0.38 | 2.00 | 60.08 |
| Max. Gas Rate | 0.38 | 3.00 | 63.74 |



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

TOOL DIAGRAM

Presco Western LLC

Johns 2-524

1775 Sherman st ste2950 Denver Co 80203-4234

24-32-41

Job Ticket: 14201

DST#: 1

ATTN: Harold Fraulie

Test Start: 2001.05.24 @ 20:37:23

Tool Information

| | | | | |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe: | Length: 4909.00 ft | Diameter: 3.80 inches | Volume: 68.86 bbl | Tool Weight: 1800.00 lb |
| Heavy Wt. Pipe: | Length: 0.00 ft | Diameter: 0.00 inches | Volume: 0.00 bbl | Weight set on Packer: 25000.00 lb |
| Drill Collar: | Length: 309.00 ft | Diameter: 2.25 inches | Volume: 1.52 bbl | Weight to Pull Loose: 95000.00 lb |
| | | | <u>Total Volume: 70.38 bbl</u> | Tool Chased 0.00 ft |
| Drill Pipe Above KB: | 8.00 ft | | | String Weight: Initial 64000.00 lb |
| Depth to Top Packer: | 5240.00 ft | | | Final 70000.00 lb |
| Depth to Bottom Packer: | 5286.00 ft | | | |
| Interval between Packers: | 46.00 ft | | | |
| Tool Length: | 387.00 ft | | | |
| Number of Packers: | 3 | Diameter: 6.75 inches | | |

Tool Comments:

Tool Description

Length (ft) Serial No. Position Depth (ft) Accum. Lengths

| | | | | | |
|---------------|--------|-------|---------|---------|--------------------------------|
| C.O. Sub | 1.00 | | | 5211.00 | |
| S.I. Tool | 5.00 | | | 5216.00 | |
| Sampler | 3.00 | | | 5219.00 | |
| HMV | 5.00 | | | 5224.00 | |
| Jars | 5.00 | | | 5229.00 | |
| Safety Joint | 2.00 | | | 5231.00 | |
| Packer | 5.00 | | | 5236.00 | 30.00 Bottom Of Top Packer |
| Packer | 4.00 | | | 5240.00 | |
| Stubb | 1.00 | | | 5241.00 | |
| Perforations | 1.00 | | | 5242.00 | |
| Recorder | 0.00 | 3026 | Inside | 5242.00 | |
| Perforations | 5.00 | | | 5247.00 | |
| C.O. Sub | 1.00 | | | 5248.00 | |
| Blank Spacing | 31.00 | | | 5279.00 | |
| C.O. Sub | 1.00 | | | 5280.00 | |
| Perforations | 5.00 | | | 5285.00 | |
| Recorder | 0.00 | 13278 | Outside | 5285.00 | |
| Blank Off Sub | 1.00 | | | 5286.00 | 46.00 Tool Interval |
| Packer | 4.00 | | | 5290.00 | |
| Stubb | 1.00 | | | 5291.00 | |
| C.O. Sub | 1.00 | | | 5292.00 | |
| Blank Spacing | 277.00 | | | 5569.00 | |
| C.O. Sub | 1.00 | | | 5570.00 | |
| Perforations | 24.00 | | | 5594.00 | |
| Recorder | 0.00 | 13278 | Outside | 5594.00 | |
| Bullnose | 3.00 | | | 5597.00 | 311.00 Bottom Packers & Anchor |

Total Tool Length: 387.00



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DRILL STEM TEST REPORT

FLUID SUMMARY

Presco Western LLC

Johns 2-524

1775 Sherman st ste2950 Denver Co 80203-4234

24-32-41

Job Ticket: 14201

DST#: 1

ATTN: Harold Fraulie

Test Start: 2001.05.24 @ 20:37:23

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

ppm

Viscosity: 52.00 sec/qt

Cushion Volume:

bbbl

Water Loss: 11.93 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: ppm

Filter Cake: inches

Recovery Information

Recovery Table

| Length ft | Description | Volume bbl |
|--------------|-----------------------------------|---------------|
| 120.00 | gassy w atery mud 15% G 35%W 50%M | 0.590 |
| 120.00 | gassy w atery mud 10%G 30%W 60%M | 0.590 |
| 120.00 | gassy w ater mud 5% G 25% w 70% M | 1.055 |
| 180.00 | mud | 2.525 |

Total Length: 540.00 ft

Total Volume: 4.760 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments:



**TRILOBITE
TESTING, INC.**

DRILL STEM TEST REPORT

GAS RATES

Presco Western LLC

Johns 2-524

1775 Sherman st ste2950 Denver Co 80203-4234

24-32-41

Job Ticket: 14201

DST#: 1

ATTN: Harold Fraulie

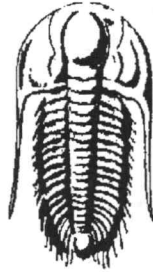
Test Start: 2001.05.24 @ 20:37:23

Gas Rates Information

Temperature: 59 deg C
Relative Density: 0.65
Z Factor: 0.8

Gas Rates Table

| Flow Period | Elapsed Time | Choke (mm) | Pressure (kPaa) | Gas Rate (m ³ /d) |
|-------------|--------------|------------|-----------------|------------------------------|
| 1 | 15 | 0.38 | 3.00 | 63.74 |
| 1 | 15 | 0.38 | 3.00 | 63.74 |
| 1 | 20 | 0.38 | 3.00 | 63.74 |
| 1 | 30 | 0.38 | 2.00 | 60.08 |
| 2 | 5 | 0.38 | 2.00 | 60.08 |
| 2 | 15 | 0.38 | 2.00 | 60.08 |



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DRILL STEM TEST REPORT

Prepared For: **Presco Western LLC**

1775 Sherman st ste2950 Denver Co 80203-4234

ATTN: Harold Fraulie

24-32-41

Johns 2-524

Start Date: 2001.05.25 @ 10:19:13

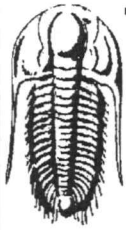
End Date: 2001.05.25 @ 21:35:56

Job Ticket #: 14202 DST #: 2

Trilobite Testing, Inc

PO Box 362 Hays, KS 67601

ph: 785-625-4778 fax: 785-625-5620



TRILOBITE TESTING, INC.

DRILL STEM TEST REPORT

Presco Western LLC

Johns 2-524

1775 Sherman st ste2950 Denver Co 80203-4234

24-32-41

ATTN: Harold Fraulie

Job Ticket: 14202

DST#: 2

Test Start: 2001.05.25 @ 10:19:13

GENERAL INFORMATION:

Formation: **Morrow**

Deviated: No Whipstock: ft (KB)

Time Tool Opened: 13:26:41

Time Test Ended: 21:35:56

Test Type: Conventional Straddle

Tester: Blake Wallace

Unit No: 20

Interval: **5345.00 ft (KB) To 5358.00 ft (KB) (TVD)**

Total Depth: 5597.00 ft (KB) (TVD)

Hole Diameter: 7.88 inches Hole Condition: Poor

Reference Elevations: 3405.00 ft (KB)

3394.00 ft (CF)

KB to GR/CF: 11.00 ft

Serial #: 3026 Inside

Press@RunDepth: 123.26 psig @ 5347.00 ft (KB)

Start Date: 2001.05.25

End Date:

2001.05.25

Start Time: 10:19:13

End Time:

21:35:56

Capacity: 7000.00 psig

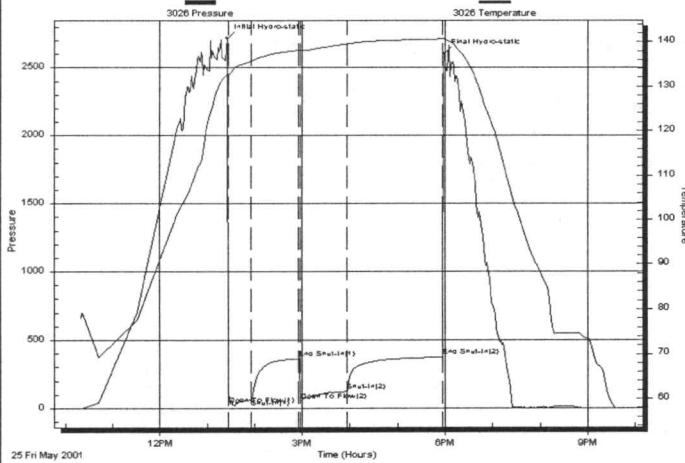
Last Calib.: 2001.12.30

Time On Btm: 2001.05.25 @ 13:24:56

Time Off Btm: 2001.05.25 @ 17:58:26

TEST COMMENT: IF-strong blow BOB 1 min
 ISI-no blow back
 FF-strong blow BOB as soon as open
 FSI-blow back built to .5 inches

Pressure vs. Time



PRESSURE SUMMARY

| Time (Min.) | Pressure (psig) | Temp (deg F) | Annotation |
|-------------|-----------------|--------------|----------------------|
| 0 | 2715.08 | 132.52 | Initial Hydro-static |
| 2 | 24.46 | 132.62 | Open To Flow (1) |
| 31 | 66.24 | 135.68 | Shut-In(1) |
| 90 | 363.14 | 138.06 | End Shut-In(1) |
| 93 | 46.91 | 138.11 | Open To Flow (2) |
| 152 | 123.26 | 139.51 | Shut-In(2) |
| 272 | 372.25 | 140.60 | End Shut-In(2) |
| 274 | 2602.91 | 140.72 | Final Hydro-static |

Recovery

| Length (ft) | Description | Volume (bbl) |
|-------------|----------------------------------|--------------|
| 92.00 | 48% gas 2% oil 20% water 30% mud | 0.45 |
| 92.00 | 2% oil 28% water 70% mud | 0.45 |
| 134.00 | 10% gas 90% mud | 0.75 |
| | | |
| | | |

Gas Rates

| | Choke(inches) | Pressure (psig) | Gas Rate (Mcf/d) |
|--|---------------|-----------------|------------------|
| | | | |



**TRILOBITE
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DRILL STEM TEST REPORT

TOOL DIAGRAM

Presco Western LLC

Johns 2-524

1775 Sherman st ste2950 Denver Co 80203-4234

24-32-41

Job Ticket: 14202

DST#: 2

ATTN: Harold Fraulie

Test Start: 2001.05.25 @ 10:19:13

Tool Information

| | | | | |
|---------------------------|--------------------|-----------------------|--------------------------------|------------------------------------|
| Drill Pipe: | Length: 5032.00 ft | Diameter: 3.80 inches | Volume: 70.59 bbl | Tool Weight: 1800.00 lb |
| Heavy Wt. Pipe: | Length: ft | Diameter: 0.00 inches | Volume: 0.00 bbl | Weight set on Packer: 30000.00 lb |
| Drill Collar: | Length: 308.00 ft | Diameter: 2.25 inches | Volume: 1.51 bbl | Weight to Pull Loose: 160000.0 lb |
| | | | <u>Total Volume: 72.10 bbl</u> | Tool Chased 0.00 ft |
| Drill Pipe Above KB: | 25.00 ft | | | String Weight: Initial 60000.00 lb |
| Depth to Top Packer: | 5345.00 ft | | | Final 66000.00 lb |
| Depth to Bottom Packer: | 5359.00 ft | | | |
| Interval between Packers: | 14.00 ft | | | |
| Tool Length: | 286.00 ft | | | |
| Number of Packers: | 3 | Diameter: 6.75 inches | | |

Tool Comments:

Tool Description

| Tool Description | Length (ft) | Serial No. | Position | Depth (ft) | Accum. Lengths |
|---------------------------|---------------|------------|----------|------------|--------------------------------|
| C.O. Sub | 1.00 | | | 5316.00 | |
| S.I. Tool | 5.00 | | | 5321.00 | |
| Sampler | 3.00 | | | 5324.00 | |
| HMV | 5.00 | | | 5329.00 | |
| Jars | 5.00 | | | 5334.00 | |
| Safety Joint | 2.00 | | | 5336.00 | |
| Packer | 5.00 | | | 5341.00 | 30.00 Bottom Of Top Packer |
| Packer | 4.00 | | | 5345.00 | |
| Stubb | 1.00 | | | 5346.00 | |
| Perforations | 1.00 | | | 5347.00 | |
| Recorder | 0.00 | 3026 | Inside | 5347.00 | |
| Perforations | 11.00 | | | 5358.00 | |
| Recorder | 0.00 | 13278 | Outside | 5358.00 | |
| Blank Off Sub | 1.00 | | | 5359.00 | 14.00 Tool Interval |
| Packer | 4.00 | | | 5363.00 | |
| Stubb | 1.00 | | | 5364.00 | |
| C.O. Sub | 1.00 | | | 5365.00 | |
| Blank Spacing | 217.00 | | | 5582.00 | |
| C.O. Sub | 1.00 | | | 5583.00 | |
| Perforations | 16.00 | | | 5599.00 | |
| Recorder | 0.00 | 11019 | Outside | 5599.00 | |
| Bullnose | 2.00 | | | 5601.00 | 242.00 Bottom Packers & Anchor |
| Total Tool Length: | 286.00 | | | | |



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DRILL STEM TEST REPORT

FLUID SUMMARY

Presco Western LLC

Johns 2-524

1775 Sherman st ste2950 Denver Co 80203-4234

24-32-41

Job Ticket: 14202

DST#: 2

ATTN: Harold Fraulie

Test Start: 2001.05.25 @ 10:19:13

Mud and Cushion Information

Mud Type: Gel Chem

Cushion Type:

Oil API:

deg API

Mud Weight: 9.00 lb/gal

Cushion Length:

ft

Water Salinity:

24000 ppm

Viscosity: 68.00 sec/qt

Cushion Volume:

bbl

Water Loss: 8.78 in³

Gas Cushion Type:

Resistivity: ohm.m

Gas Cushion Pressure:

psig

Salinity: ppm

Filter Cake: inches

Recovery Information

Recovery Table

| Length ft | Description | Volume bbl |
|--------------|-----------------------------------|---------------|
| 92.00 | 48% gas 2% oil 20% w ater 30% mud | 0.452 |
| 92.00 | 2%oil 28% w ater 70% mud | 0.452 |
| 134.00 | 10% gas 90% mud | 0.750 |

Total Length: 318.00 ft Total Volume: 1.654 bbl

Num Fluid Samples: 0

Num Gas Bombs: 0

Serial #:

Laboratory Name:

Laboratory Location:

Recovery Comments: sampler had no pressure

RW= .293 @ 69 deg chlorides = 24000

Pressure vs. Time

